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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,755	02/19/2002	Narayan L. Gehlot	Gehlot 36 (375824/0169)	7836

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EXAMINER
PHU, SANH D

ART UNIT	PAPER NUMBER
2682	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2002*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-18 and 20* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-12* is/are allowed.

6)☒ Claim(s) *13-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   There is no claim 19. Correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived by
> the manner in which the invention was made.

3.   Claims 13-18 and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Costas (4,349,915).

        -Regarding to claim 13, see figures 1, 10, 11P and 16, and col. 4, line 45

to col. 22, line 58, Costas discloses a system comprising

        a receiver (3) (see figure 10) adapted to be in a communication with a

transmitter (figure 1) so as to enable the receiver to capture data packets of a

wireless data transmission, the transmitter associating each of the data

packets of the wireless data transmission with a time "propagation delay" and

spatial value "Doppler shift"; and

a processor (all elements of figure 10 except (3,2,1) wherein the

processor is operative with programming to iteratively compare the time and

spatial values of each captured data packet to

the respective time and spatial values of a stored data packet (DATA) stored in

means (106) (see figure 10), which can considered as a replica of a non-

reflective packet, such that the processor can determine whether each

captured data packet is reflective or non-reflective.

Costas does not disclose the communication between the transmitter and

the receiver is occurred in a wireless medium. However, he teaches that his

invention can be applied for communications in mediums of interest (see col.

4, line 41-44). Therefore, for an application, it would have been obvious for a

person skilled in the art to implement Costas invention in a wireless

communication without affecting the overall system performance.

Costas does not disclose a memory interconnected with the receiver to

store the captured data packets. However, storing data in a memory in order

to retrieve the data at a desired time is well-known in the art, and the

Examiner takes Official Notice. Since the captured data packets are to be

detected by detection means (10-19) of the processor, it would have been

obvious for a person skilled in the art to store the captured data packets in a

memory in order to retrieve them at a desired time to be inputted to the

detection means for the detection in-time.

-Regarding to claim 14, as applied for claim 13, it would have been

obvious for a person skilled in the art, within his skills, to implement the

memory comprising a plurality of memory partitions and to implement the

memory to store each data packet (Vout) (see figure 1) determined to be non-

reflective is stored in a separate one of the memory partitions, if desired or

required by his system requirement, without affecting the overall system

performance.

-Regarding to claim 15, Costas discloses that each data packet

determined by the

processor to be reflective is matched to a corresponding one of the non-

reflective data packets (see figure 2B). And, as applied for claims 13 and 14, it

would have been obvious for a person skilled in the art to aggregate in the

memory partition to store the matched non-reflective data packet, if desired or

required by his system requirement, without affecting the overall system

performance.

-Regarding to claim 16, each data packet determined to be reflective is

inherently destroyed by the processor since the processor only produce

recovered data packets as non-reflective data packets (see figure 2M).

-Regarding to claim 17, Costas discloses that the time value is coded in a

bit format (see figure 2A).

-Regarding to claim 18, Costas discloses that the time value is modulated

as part of a

carrier signal associated with the wireless data transmission (see figure 2A).

-Regarding to claim 20, Costas discloses that the processor analyzes the

respective spatial values of the stored non-reflective data packets such that

movement "Doppler information" of the transmitter relative to the receiver can

be monitored (see figures 10 and 16).

Allowable Subject Matter

4.   Claims 1-12 are allowed.

Regarding to claim 1, none of the prior art of record teaches or suggests

a method of reducing multipath interference in a wireless data transmission,

the method comprising the steps of:

capturing a plurality of data packets associated with the wireless data

transmission, each of the data packets being associated with a time value, and

wherein some of the data packets being captured are non-reflective packets

and some are reflective packets;

determining whether each captured data packet is reflective or non-

reflective by:

comparing the time value of the captured data packet to the time value of

each stored non-reflective packet;

identifying the captured data packet as non-reflective, when the time

value of the captured packet is different from the time value of each stored

non-reflective packet; and

identifying the captured data packet as reflective, when time value of the

captured packet is identical to the time value of any stored non-reflective

packet; and

repeating the determining step for each subsequently captured data

packet.

Regarding to claim 11, none of the prior of record teaches or suggests

method of reducing multipath interference in a wireless data transmission

being comprised of a plurality of data packets, each of the data packets being

associated with a time value, the method comprising:

storing a first received data packet of the data transmission in a first

memory partition;

comparing the time value of a second received data packet with the time

value of the first received data packet;

designating the second received data packet as reflective, if the

respective time values of the first and second received data packets are

identical, or designating the second received data packet as non-reflective, if

the respective time values of the first and second received data packets are

different;

comparing the time value of a third received data packet with the

respective time values of the first and second received data packets; and

designating the third received data packet as reflective, when the time

values of either the first and third received data packets or second and third

received data packets are identical, and designating the third received data

packet as non-reflective, when the time values of both the first and second

received data packets are different from the time value of the third received

data packet.

Conclusion

Any inquiry concerning this communication or earlier communications

from the examiner should be directed to Sanh D Phu whose telephone number

is (703)305-8635. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax

phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

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http://pair-direct.uspto.gov. Should you have questions on access to the

Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

9197 (toll-free).

                                        Sanh D.Phu
                                        Examiner
                                        Art Unit 2682

SP.

LEE NGUYEN
PRIMARY EXAMINER